

AMENDMENTS TO THE CLAIMS

1-65. (Cancelled)

66. (Currently amended) A method of detecting activities of a plurality of different ~~proteins~~ enzymes in a cell, comprising:

introducing reporter molecules into the cell;

releasing the reporter molecules from the cell; and

detecting the reporter molecules to detect the activities of the plurality of different ~~proteins~~ enzymes in the cell.

67. (Previously presented) The method of claim 66, wherein the reporter molecules comprise at least one member selected from the group consisting of unaltered reporter molecules and altered reporter molecules.

68. (Currently amended) The method of claim 66, further comprising recording and tabulating the activities of the plurality of ~~proteins~~ enzymes.

69. (Previously presented) The method of claim 66, further comprising exposing the cell to an external stimulus.

70. (Previously presented) The method of claim 69, wherein the external stimulus comprises a compound.

71. (Currently amended) The method of claim 70, wherein the compound is at ~~least one member selected from the group consisting of a small molecule, a nucleic acid, and a polypeptide.~~

72. (Currently amended) The method of claim 70, further comprising recording and tabulating the activities of the plurality of ~~proteins~~ enzymes, and further comprising compiling a map of cellular responses to the compound.

73. (Previously presented) The method of claim 66, wherein an auxiliary molecule that enters the cell is attached to at least one reporter molecule.

74. (Previously presented) The method of claim 73, wherein the auxiliary molecule is selected from the group consisting of a peptide and a peptide analog.

75. (Previously presented) The method of claim 66, wherein at least one reporter molecule comprises a label.

76. (Previously presented) The method of claim 75, wherein the label is selected from the group consisting of a fluorescent group, a stable isotope, a radioactive isotope, and biotin.

77. (Previously presented) The method of claim 75, wherein a first reporter molecule comprises a first label, and a second reporter molecule comprises a second label that is different than the first label.

78. (Currently amended) The method of claim 66, further comprising stopping reactions between the reporter molecules and the ~~proteins~~ enzymes after releasing the reporter molecules.

79. (Previously presented) The method of claim 78, wherein the time between releasing the reporter molecules and stopping the reactions is less than 1 second.

80. (Previously presented) The method of claim 79, wherein the time is less than 33 milliseconds.

81. (Previously presented) The method of claim 80, wherein the time is less than 10 microseconds.

82. (Previously presented) The method of claim 66, wherein detecting further comprises separating the reporter molecules using at least one technique selected from the group consisting of electrophoresis, two-dimensional gel electrophoresis, microchromatography and flow cytometry.

83. (Previously presented) The method of claim 66, wherein detecting comprises using at least one technique selected from the group consisting of mass spectroscopy, fluorescence polarization spectroscopy, flow cytometry, yeast two-hybrid

assay, morphological analysis, intercellular ion indicator activity, protein localization and affinity arrays.

84. (Previously presented) The method of claim 66, wherein detecting comprises detecting the reporter molecules on a microfluidics device.

85. (Previously presented) The method of claim 66, wherein detecting further comprises separating the reporter molecules on a microfluidics device.

86. (Currently amended) The method of claim 66, wherein the plurality of different ~~proteins~~ enzymes comprises at least three ~~proteins~~ enzymes.

87. (Currently amended) The method of claim 66, wherein the plurality of different ~~proteins~~ enzymes comprises at least four ~~proteins~~ enzymes.

88. (Currently amended) The method of claim 66, wherein the plurality of different ~~proteins~~ enzymes comprises at least five ~~proteins~~ enzymes.

89. (Currently amended) The method of claim 66, wherein the plurality of different ~~proteins~~ enzymes comprises at least six ~~proteins~~ enzymes.

90. (Currently amended) The method of claim 66, wherein the plurality of different ~~proteins~~ enzymes comprises at least ten ~~proteins~~ enzymes.

91. (Previously presented) The method of claim 66, wherein the cell comprises a portion of a cell.

92. (Previously presented) The method of claim 66, wherein the introducing comprises introducing at least one of the reporter molecules at a concentration of at most 10 micromolar.

93. (Previously presented) The method of claim 66, wherein the introducing comprises introducing at least one of the reporter molecules at a concentration of at most 1 micromolar.

94. (Previously presented) The method of claim 66, wherein the introducing comprises introducing at least one of the reporter molecules at a concentration of at most 100 nanomolar.

95. (Previously presented) The method of claim 66, further comprising diminishing or terminating a chemical reaction involving the reporter molecules using scavengers or inhibitors.

96. (Previously presented) The method of claim 66, further comprising labeling the reporter molecules and stopping a chemical reaction involving the reporter molecules by introducing an unlabeled reporter molecule.

97. (Previously presented) The method of claim 66, further comprising stopping a chemical reaction involving the reporter molecules before releasing the reporter molecules and unaltered reporter molecules from the cell.

98. (Previously presented) The method of claim 95, wherein the diminishing or terminating comprises photochemically introducing the scavenger or inhibitor from a caged scavenger or caged inhibitor.

99. (Currently amended) The method of claim 66, wherein detecting comprises quantifying the activities of at least three ~~proteins~~ enzymes.

100. (Currently amended) The method of claim 66, wherein detecting comprises quantifying the activities of at least ten ~~proteins~~ enzymes.

101. (Cancelled)